Illinois Environmental Protection Agency

Bureau of Water, Permit Section

(IEPA)

1021 North Grand Avenue East, Post Office Box 19276, Springfield, Illinois 62794-9276, 217/782-3362

The IEPA has issued a Public Notice of a request for a Clean Water Act Section 401 water quality certification that would allow the issuance of a federal permit for the discharge of pollutants to waters of the State.

Public Notice Beginning Date:	**Public Notice Ending Date:**
June 15, 2021	June 29, 2021

Agency Log No.:C-0088-21

Federal Permit Information: Federal permit/license no. LRC-2021-340 is under the jurisdiction of Chicago District, Regulatory Branch U.S. Army Corps of Engineers

Name and Address of Discharger: Byron Trott - 595 Sheridan Road, Winnetka, IL60093

Discharge Location: In Section 16 of Township 42-North and Range 13-East of the East 3rd Principal Meridian in Cook County. Additional project location information includes the following: Lakefront at 595 Sheridan Road, Winnetka, IL 60093

Name of Receiving Water: Lake Michigan

Project Description: Proposed maintenance to an existing breakwater protection beach system and placement of quarried sand for nourishment.

Construction Schedule: Unknown at this time

The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their name and address along with comments on the certification request. The IEPA Log number must appear on each comment page. Commenters may include a request for public hearing. Only comments that pertain to Clean Water Act Section 401 authority as defined under 40 CFR part 121.3 will be considered. Part 121.3 defines the "scope of a Clean Water Act section 401 certification is limited to assuring that a discharge from a Federally licensed or permitted activity will comply with water quality requirements". Requests for additional comment period must provide a demonstration of need. The last day that comments will be received will be on the Public Notice period ending date unless the IEPA grants an extended notice period.

The attached Fact Sheet provides a detailed description of the project and the findings of the IEPA's antidegradation assessment.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please see the contact information below.

Name: Francisco Herrera Email: Francisco.Herrera@Illinois.gov Phone: 217/782-3362

Post Document. No. To be determined

Antidegradation Assessment Review for a 401 Water Quality Certification for the Maintenance of a Breakwater Protection Beach System on Lake Michigan at Winnetka
IEPA Log No. C-0088-21
Cook County
Contact: Scott Twait 217-782-9864

Byron Trott ("Applicant") has requested a Section 401 water quality certification for impacts to Lake Michigan associated with the proposed maintenance of a quarry stone breakwater system and revetment and placement of quarried sand for nourishment ("activity") at 595 Sheridan Road in Winnetka, Cook County, Illinois.

The proposed activity would be constructed to help stabilize an eroding bluff and beach. The existing breakwater protection bay beach system was constructed in 2003 and consists of two breakwaters near the north and south property lines. The project involves moving the toe landward on the western side of the southern breakwater and increasing the southern breakwater and existing revetment crest elevations to 585 and 592 feet, respectively. The beach area will be filled to the holding capacity, plus an additional 20% overfill, for a total of 2,200 tons of sand and up to 1,000 tons annually for 10 years for maintenance. All fill material would be obtained from quarries and would thereby be considered clean fill. Placement of stone and sand would be accomplished via land and marine access. The total quantities of fill include 200 cubic yards of quartzite and 1,723 cubic yards of sand and new impact total approximately 0.012 acres that are below the Ordinary High-Water Mark (IGLD 1985).

Information used in this review was obtained from the Joint Application Form received by the Agency on April 9, 2021 and subsequently submitted materials.

Identification and Characterization of the Affected Water Body.

Illinois has jurisdiction over 1,526 square miles of Lake Michigan open water, 3.88 square miles of Lake Michigan harbors and 64 miles of Lake Michigan shoreline, which are covered under the Lake Michigan Basin Water Quality Standards. Lake Michigan shoreline protection enhancement projects take place within two Lake Michigan Water types: Lake Michigan Open Waters and Lake Michigan Shoreline.

Lake Michigan Open Waters, Waterbody Segment, QLM-01, is listed on the draft 2018 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as mercury and polychlorinated biphenyls. Aquatic life, public and food processing water supply, primary recreational contact, secondary contact and aesthetic quality uses are fully supported.

Lake Michigan Shoreline Waters comprise 51 waterbody segments that span the entire 64 miles of Lake Michigan shoreline (excluding harbors and harbor entrances) within Illinois. Each of these segments are listed on the draft 2018 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as mercury and polychlorinated biphenyls and primary contact with a potential cause of Escherichia coli.

The Illinois EPA has completed 51 Total Maximum Daily Load (TMDL) reports to address primary recreational use impairments by bacteria at beaches along Lake Michigan's Shoreline in Illinois. These TMDL reports are presented in 3 separate documents for the following areas: Lake County (9 beaches), Suburban Cook County (13 beaches), and the City of Chicago (29 beaches). These documents are available at https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/reports.aspx

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The pollutant load increases that would occur from this project include some possible increases in total suspended solids. These increases, a normal and unavoidable result of the construction of shoreline erosion protection structures, may occur in the lake at the point of construction activity.

Material used in the construction of this project includes or may include nonerodable quarry stone of varying sizes, sand obtained from construction sand quarries and steel sheet-pile.

Benthic habitat will also be disturbed in the vicinity of the construction area as open lakebed area would be converted to shoreline protection structures or overlain by additional sand.

TMDL reports have been prepared by the Agency and approved by the USEPA for 51 beaches along Illinois' Lake Michigan shoreline to address Primary Contact Use Recreation impairments due to excess bacteria. The proposed activity may occur within an area identified by the report "Shoreline Segments in Lake County, Illinois", May 15, 2013, as a Beach Protection Area subject to that TMDL. The proposed activity would alter the shape of the shoreline in the vicinity of the project but is not expected to cause the effects associated with embayments in the nearshore waters and therefore is not considered a potential source of pathogenic bacterial loading of nearby public beaches.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids, from the maintenance of the quarry stone breakwaters and revetment, will be local and temporary. Although the benthic habitat will be disturbed by the construction activities, it is anticipated to recover and improve over time due to the placement of sand over exposed clay lakebed substrates. Additionally, the voids within the proposed quarry stone revetment structure are expected to provide a stable and diverse habitat opportunity for fish and other aquatic species.

No mitigation is proposed for this project because the total area of waters of the U.S. impacted by this project is less than the 0.1 acres deemed by the Corps of Engineers to be the threshold of minimal adverse environmental impact.

Supplemental information provided by the applicant regarding strategies to reduce E. coli loading as a result of beach modification indicate that the project would comply with the TMDL's water quality concentration limit load allocation of 126 cfu/100ml. The proposed embayment of the shoreline would be created with clean fill materials and would feature greater slope and a smaller swash zone. These and additional proposed improvements are expected to contribute to an overall reduction of E. coli loading to the segment of Lake Michigan shoreline impacted by this project and meet the TMDL's goals.

Purpose and Anticipated Benefits of the Proposed Activity.

The purpose of Lake Michigan shoreline protection enhancement projects are to establish a more stable layer of sand that serves to reduces downcutting of the clay lakebed and prevents erosion along the project-affected length of the shoreline as well as to provide a higher level of shoreline protection during higher lake levels and larger storm waves. The purpose of the proposed sand nourishment is to offset any littoral sands whose drift would be restricted by the proposed shoreline protection structures and to maintain sand lost during storm events. Erosion of the lakebed and bluff, if not prevented, would undermine existing shoreline structures or the bluff and result in additional beach erosion and resuspension of clays found in the substrate material.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

Given that suspended solids are the pollutants primarily associated with the Lake Michigan shoreline protection enhancement projects, the incorporation of best management practices are the most practical means of pollution prevention. Such practices include performing work with heavy machinery from outside of the water as on a barge or from the shoreline and careful placement techniques when constructing offshore breakwater structures. Practical alternatives to structural shoreline protection such as dune plantings and living shorelines generally are not recommended for coastal zones with high levels of wave action. Shoreline structures placed upland of the ordinary high-water mark such as shore parallel stone revetment may not be suitable for all stretches of shoreline. The variability of Lake Michigan's shoreline including but not limited to orientation relative to wave attack, nearby existing structures, lakeward and landward shoreline profiles, existing depths of beach sand, and proximity of residential/commercial structures all factor into the applicant's determination of shoreline protection needs. Costs of shoreline stabilization work is significant and under-engineered structures that end up failing may result in additional repair work, erosion of tableland or loss of property. The do nothing alternative would leave the eroding shoreline in its existing state, which would lead to lakebed downcutting and additional shoreline erosion. Higher lake levels and larger storm waves would cause increased vulnerability of the tableland or bluff and therefore greater risk of property loss. The construction of the proposed project would follow conditions set forth by the Agency, Illinois DNR and USACE. The least intrusive alternative would be to not complete the project. This is not an acceptable alternative given the need to protect the shoreline from additional erosion during storm surges. Completion of the proposed project would allow for protection of Lake Michigan shoreline and nearby structures.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities

On May 20, 2021 the IDNR's Ecological Compliance Assessment (EcoCAT) review was initiated for the project area. The review identified protected resources that may be in the vicinity of the proposed action. This information was evaluated, and it was determined that adverse effects are unlikely. IDNR terminated the consultation on May 21, 2021.

Agency Conclusion

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time this assessment was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will provide a stable shoreline system that reduces the impacts of wave energy, protects benthic habitats, prevents the further bluff destabilization, retains a sandy beach area, and provides access for landowners to the lake. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.